

# Important Advances in Clinical Medicine

## *Epitomes of Progress-- Otolaryngology*

*The Scientific Board of the California Medical Association presents the following inventory of items of progress in Otolaryngology. Each item in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole is generally given for those who may be unfamiliar with a particular item. The purpose is to assist the busy practitioner, student, research worker or scholar to stay abreast of these items of progress in Otolaryngology which have recently achieved a substantial degree of authoritative acceptance, whether in his own field of special interest or another.*

*The items of progress listed below were selected by the Advisory Panels to the Section on Otolaryngology of the California Medical Association and the summaries were prepared under their direction.*

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### **A New Approach (Optics) in Oto-Rhino-Laryngology**

An introduction of the "rod-lens" image relay system with fiberlight transmission opened a new chapter in those oto-rhino-laryngological procedures where rigid endoscopes are employed. These miniature telescopes give a brighter image with a wider viewing field through smaller, more easily introduced instruments. The indirect laryngoscope (90° direction of view) incorporating fiberlight transmission does not exceed 5 mm in

total outside diameter. The larynx and the nasopharynx can be examined in one session. It is much more comfortable for the patient because of the small size. The enlarged image can be observed more easily and in greater detail than with the standard mirror technique.

For anterior rhinoscopy a 4 mm telescope with a foroblique view can be introduced with ease through the nostrils. A 2.7 mm rod-lens otoscope with a handle was designed to evaluate its usefulness to replace the cumbersome otoscope with the loop magnifier.

A new set of instruments for bronchoscopy with controlled ventilation and excellent view for the various lobes, including the upper lobe, and an optical biopsy forceps facilitates accurate tissue sampling.

Foreign body removal with these instruments under telescopic control—mainly in pediatrics—opens new vistas for this difficult task.

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#### REFERENCES

- Berci G: Endoscopy today. *Postgrad Med* 51:64, Feb 1972  
Gans S, Berci G: Advances in endoscopy of infants and children. *J Pediatr Surg* 6:No. 2, Apr 1971, Part 2

### The Use and Management of Cuffed Endotracheal Tubes

The incidence of chronic airway obstruction by subglottic and tracheal stenosis has risen sharply in the last 15 years. This is part of the price paid for the increased popularity of nasotracheal intubation in newborns, and for the use of cuffed endotracheal and tracheotomy tubes in older age groups. A portion of this price must be accepted as a necessary risk outweighed by increased survival rates and the benefits of positive pressure respiratory support. However, stenosis afterwards is the direct result of trauma to the glottis and trachea caused by these tubes, most of which can be avoided by using some common sense.

Two conditions predispose to stenosis, infection and poor mechanical fit. A tracheal infection may be pre-existing or caused by poor sterile technique in subsequent management. The latter is preventable by good care. The former is sometimes preventable by selective use of tracheotomy in patients where inflammation of the larynx or subglottis is the primary airway obstruction or when intubation is anticipated to be needed for more than three days.

A poor mechanical fit of any type of tube causes mucosal and even cartilage destruction by direct pressure or avascular necrosis. In the newborn period, this is almost always caused by inexperienced operators, multiple intubations within a few days, and the temptation to use too large a tube to obtain a "snug" fit. While such a tight fit can be comforting to the physician at the moment, it is almost a guarantee of postintubation edema and respiratory distress 8 to 24 hours afterward, again requiring intubation, and the cycle begins.

In older children and adults the mechanical causes increase in variety. Sustained or overinflation of a cuffed endotracheal or tracheotomy tube is probably the most common preventable cause of stenosis. It is better to use a fairly large tube with a cuff needing only slight expansion than a smaller tube which requires a greater air pressure in the cuff to occlude the tracheal lumen. No cuff should be left expanded for longer than absolutely necessary, and periodic deflation every two or three hours should be a routine nursing order in hospitals where personnel can be trusted not to overinflate the cuff. The use of soft pliable materials for both endotracheal and tracheotomy tubes can prevent further tracheal trauma. When tracheotomy tubes are used, especially in children, a postoperative lateral x-ray of the neck and upper mediastinum is good medical practice to check on the location and fit of the tube to prevent posterior wall necrosis and esophageal problems. Endotracheal bleeding, even if very minor, should always be considered a sign of a poorly fitting tube until proven otherwise.

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#### REFERENCE

- Andrews MJ, Pearson FG: Incidence and pathogenesis of tracheal injury following cuffed tube tracheostomy with assisted ventilation: Analysis of a two-year prospective study. *Ann Surg* 173:249-263, Feb 1971

### Sudden Sensorineural Hearing Loss

In spite of the fact that sudden spontaneous sensorineural hearing loss is a medical emergency, it is probably the most frequently missed diagnosis in otology. In the typical case, an otherwise healthy adult notices a "stuffy" or "full" feeling in one ear. Tinnitus may be present, but vertigo is uncommon. This feeling may disappear spontaneously in a few hours. If it persists, he will probably see a physician within the first two days, but this is likely to be unrewarding since the chances for a correct diagnosis are less than 50 percent, even for an otolaryngologist (unless the hearing loss is nearly total). Instead, the average patient will be treated with decongestants, middle ear inflation, and perhaps